[John preaching in the Wilderness.—From a portion of a picture by Giotto.]

ESSAYS ON THE LIVES OF REMARKABLE PAINTERS.—No. V.

Giotto and his Scholars.

Before we say anything of the personal characteristics of Giotto, we must return for a moment to that revolution in art which originated with him—which seized at once on all imaginations, all sympathies; which Dante, Boccaccio, and Petrarch have all commemorated in immortal verse or as immortal prose; which, during a whole century, filled Italy and Sicily with disciples formed in the same school and penetrated with the same ideas. All that had been done in painting before Giotto resolved itself into the imitation of certain existing models, their improvement to a certain point in style of execution: there was no new method; the Greekish types were everywhere seen, more or less modified—a Madonna in the middle, with a couple of lank saints or angels stuck on each side, holding symbols; or with their names written over their heads, and texts of scripture proceeding from their mouths; or at the most a few figures, placed in such a position relatively to each other as sufficed to make a story intelligible, and the arrangement generally traditional and arbitrary: such seems to have been the limit to which painting had advanced previous to 1280.

Giotto appeared; and almost from the beginning of his career he not only deviated from the practice of the older painters, but stood opposed to them. He not only improved—he changed; he placed himself on wholly new ground. He took up those principles which Nicola Pisano had applied to sculpture, and went to the same sources, to nature, and to those remains of pure antique art which showed him how to look at nature. His residence at Rome while yet young, and in all the first glowing development of his creative powers must have had an incalculable influence on his after-works. Deficient to the end of

his life in the knowledge of form, he was deficient in that kind of beauty which depends on form; but his feeling for grace and harmony in the airs of his heads and the arrangement of his groups was exquisite; and the longer he practised his art, the more free and flowing became his lines. But, beyond grace and beyond beauty, he aimed at the expression of natural character and emotion, in order to render intelligible his newly-invented scenes of action and his religious allegories. A writer near his time speaks of it as something new and wonderful, that in Giotto's pictures "the personages who are in grief look melancholy, and those who are joyous look gay." For his heads he introduced a new type exactly reversing the Greek pattern: long-shaped, half-shut eyes; a long, straight nose; and a very short chin. The hands are rather delicately drawn, but he could not design the feet well, for which reason we generally find those of his men clothed in shoes or sandals wherever it is possible, and those of his women covered with flowing drapery. The management of his draperies is, indeed, particularly characteristic; distinguished by a certain lengthiness and narrowness in the folds, in which however there is much taste and simplicity, though in point of style as far from the antique as from the complicated meanness of the Byzantine models; and it is curious that this peculiar treatment of the drapery, these long perpendicular folds, correspond in character with the principles of Gothic architecture, and with it rose and declined. For the stiff, wooden limbs, and motionless figures, of the Byzantine school, he substituted life, movement, and the *look*, at least, of flexibility. His notions of grouping and arrangement he seems to have taken from the ancient basso-relievos: there is a statuesque grace and simplicity in his compositions which reminds us of them. His style of colouring and execution was, like all the rest, an innovation on received methods: his colours were lighter and more roseate than had ever been known; the fluid by which they were tempered more thin and easily managed; and his frescoes must have been skilfully executed to have stood so well as they have done. Their duration is, indeed, nothing compared to the Egyptian remains; but the latter have been for ages covered up from light and air in a dry sandy climate: those of Giotto have been exposed to all the vicissitudes of weather and of underground damp, have been whitewashed and every way ill-treated, yet the fragments which remain have still a surprising freshness, and his distemper pictures are still wonderful. It is to be regretted that the reader cannot be referred to any collection in England for an example of the characteristics here enumerated. We have not in the National Gallery a single example of Giotto or his scholars: the earliest picture we have is dated nearly two hundred years after his death: the only one in the Louvre (a St. Francis, as large as life) is dubious and unworthy of him. In the Florentine gallery are three pictures: Christ on the Mount of Olives, one of his best works; and two Madonnas, with graceful angels, &c. In the gallery of the Academy of Arts, in the same city, are more than twenty small pictures (the best works of Giotto are on a small scale —these measure about a foot in height): two of the same series are at Berlin, all representing subjects from the life and acts of Christ, of the Virgin, or St. Francis. Those who are curious may consult the engravings after Giotto in the plates to the 'Storia della Pittura' of Rosini; in those of D'Agincourt's 'Histoire de l'Art par les Monumens;' and in Ottley's 'Early Italian School,' a copy of which is in the British Museum.

[To be continued.]

FLOATING AND FLYING BRIDGES.

[Concluded from page 112.]

A MORE perfect arrangement than the bateaux is that of *pontoons*, adapted more or less by European armies generally. A pontoon is a kind of low flat vessel, somewhat resembling a lighter or barge, formed of a wooden frame-work, and either lined inside and out with tin plates, or on the outside only with copper plates. There are two sizes employed, the one measuring about twenty-one feet long by five wide, and the other seventeen feet long by four wide. These pontoons are to act as substitutes for boats in building a bridge of boats, or a "pontoon-bridge," and are carried with an army as part of its stores, when likely to be necessary. Each pontoon is carried on a distinct wheel-carriage formed for its reception; and with each one are stowed away all the materials for one portion of the bridge: so that a pontoon train consists not only of the pontoons, but of all the materials required for the bridge. A large pontoon, with its carriage appurtenances, weighs nearly two tons, and is drawn by six horses. A pontoon-train consists of a number supposed to be sufficient for the widest river the army will have to cross: it consists of thirty-six pontoons, which, with all the stores requisite for the operations, occupy fifty-six carriages, drawn by three hundred and sixteen horses. Each pontoon carries (or rather has belonging to it) beams, flooring-boards, gang-boards, oars, bolts, an anchor, a grapnel, a cable, a smaller rope, a boat-hook, and a few other stores; and the use of these may be simply explained as follows:—In building a pontoon-bridge, the pontoons are ranged across the river in a parallel series, and fastened either by a rope passing from shore to shore, or else by anchors, one to each pontoon. The intervals between the pontoons are rather greater than the width of the pontoons themselves. Strong beams, called 'baulks,' are laid from one pontoon to another, and securely fastened. On these are laid portions of flooring called 'chesses,' each chess consisting of boards joined together by wooden bars; and when these chesses are laid from end to end of the line, they form the flooring of a bridge over which infantry, cavalry, and artillery may pass. The army having passed, the bridge is taken to pieces, and all the pontoons, with their respective portions of the stores, &c., are hoisted upon their carriages, again to be dismounted when a second occasion may require.

We may next allude to those temporary bridges in which, instead of a flooring being established from bank to bank of a river, there is only a *portion* of a bridge, which receives its cargo on one shore, and then travels over to the other.

The contrivance known in military engineering by the name of a 'flying-bridge' is formed by enclosing a floating body in a river so as to receive the action of the stream obliquely; by which a force is derived from the current, to move the vessel across the river. The kind of movement obtained is very singular, and depends on the following principle:—if a boat, or any other floating body whose length greatly exceeds its breadth, be kept obliquely across a stream by a helm or any similar contrivance, and exposed to the natural action of the stream, the current will, by acting on the broadside more powerfully than on either end, drive it diagonally, so that while it descends the stream it is also driven towards one bank. Now the object of a flying-bridge is, to obtain the transverse movement, that is, the motion across the stream, and yet prevent the boat from descending the stream. To effect this, an anchor is firmly imbedded in the river, at some distance above the line of intended passage; and to this anchor a cable is attached, whose other end is fastened

to the boat or vessel; the intermediate portion of the cable being held up out of the water by being supported by smaller boats. The cable thus becomes the radius of a circular arc, which measures the greatest distance that can intervene between the anchor and the boat. Supposing the boat to be left now to itself, the course of the current would bring it to the middle of the stream, with its length in the direction of the stream. But if the boat be kept with its length making an angle with the stream (the best angle has been proved to be 54° 44′), the current will drive it over from one bank to the other, in a circular arc, of which the length of the cable is the radius. The current, unable to drive the boat down the stream by reason of the cable, is yet able to urge it across the stream, by virtue of its pressure against the oblique side of the boat. The boat effects one half of the passage in a descending arc (with the current), and the other arc in an ascending arc; and as the latter is obviously the most unfavourable, the ascent is rendered less considerable by having a longer cable, and consequently a flatter curve of transit. Sometimes two anchors are used at different parts of the river's width; and the boat is so managed that one half of the transit is made with the agency of one anchor, and the other half with that of the other; and in such a case the boat describes two curves in its passage instead of one.

We have spoken of a *boat*, for convenience of description; but the floating body thus driven across the river is generally a platform, supported by boats underneath, and capable of carrying a large body of men. A flying-bridge for the passage of a considerable river, such as the Rhine or the Danube, consists of a scaffolding or frame-work placed on two long, narrow, and deep boats or barges. The boats are placed side by side, with as great a distance between them as the strength of the structure will allow. Beams of stout timber are bolted down to the edges of the boats, and on the beams a stout flooring is laid. A draw-bridge or lifting-bridge is attached to each side of the platform, as a means of affording convenient ingress and egress to the passengers. Each boat is provided with a strong mast, twenty or thirty feet high, to which is to be attached the cable. Each boat is provided with a rudder, and both rudders are so connected that one person can manage them.

Two Thames barges fitted up in this manner would carry a platform or flooring fifty feet square, on which six hundred and fifty men might stand, and thus be conveyed across a river. Sometimes a stage of two stories has been erected in two boats, by which from fourteen to fifteen hundred men have been carried at once. A flying-bridge of this kind was constructed at Hunnengen, during one of the wars of the last century, in which a hundred and forty cavalry, with their horses and equipments, found room on the stage or platform; while five hundred infantry occupied the boats underneath. The length of the cable was three hundred toises, supported by ten boats, and fixed to a range of piles instead of anchors.

Another variety of flying-bridge is that in which, while the obliquity of the boat's direction is the primary cause of the movement across the stream, the boat is prevented from descending the river by a rope stretched across from shore to shore, instead of by a cable fixed to an anchor in the stream. It is generally when a river is too wide for the adoption of the former plan that recourse is had to the latter. A rope, called in sea-language a 'warp,' is stretched across the river, and is upheld in its medium parts by one or more buoys. The rope guides the boat while 'sheering'—a sea-term for the motion of a boat across a stream by the oblique action of the current.

Sir H. Douglas describes a flying-bridge of this kind as having been established across the Thames at Gravesend. The period was during the threat of invasion, when it was of great importance to have a well-established military communication between Gravesend and Tilbury Fort, without interrupting the navigation of the river. There were two warps, one for passing from Tilbury Fort to Gravesend, and the other for the return course. Each warp (consisting of five-inch cable) was four hundred and eighty fathoms in length, with fifty additional fathoms of spare warp ready for use. Each warp was kept nearly stationary at two points in the width of the river, by means of fourteen-inch cables, each cable attached to two anchors; so that each warp was retained by four anchors weighing about a ton each. The vessels employed were large barges, capable of containing a great number of troops; and each barge was attached to a warp in such a manner as to be able to move; while the direction of the barge with respect to the stream was regulated by a rudder. At the time when these plans were adopted, steam-boats were unknown; but it is probable that in the present day, and in such a spot, a steam-ferry would be adopted in preference to the 'warping.'

The harbours at Plymouth and Portsmouth display at the present day very remarkable examples of the flying-bridge moved by steam—or of steam floating-bridges, to use a better term. Contrivances of this kind are now working across Portsmouth harbour, from Portsmouth to Gosport, and across the Hamoaze, or Plymouth harbour, from Devonport to Torpoint. The principle is the same in both, and we will therefore speak only of that belonging to Plymouth, which preceded the other in point of time.

The Hamoaze at Torpoint is nearly half a mile wide at high-water, with a maximum depth of about a hundred feet. About fifty years ago, when the traffic from the Devonshire coast to the Cornish coast across the Hamoaze began to be considerable, the Earl of Mount Edgcumbe and Mr. Carew obtained an act of parliament authorizing them to establish a ferry at this spot. This ferry proved convenient to the inhabitants and profitable to the owners, till the year 1825; when, to meet the increasing demands of the public, a company took a lease of the ferry for twenty-one years, and endeavoured to establish a 'twin steam-boat,' such as had shortly before been established at Dundee. The strength of the current was found to be too great to allow the boat to travel directly across the river with sufficient certainty for the purposes of traffic, and the experiment subsequently failed.

Mr. Rendel, a civil engineer, was then applied to for an investigation into the practicability of constructing a floating-bridge, which, while moved by the power of steam, should at the same time be protected from the strength of the current. From this investigation resulted the very ingenious and efficient floating-bridge now plying in the Hamoaze, and which Mr. Rendel himself has minutely described in a paper addressed to the Institute of Civil Engineers. We will briefly describe the bridge itself, and then the mode of propulsion.

The bridge is a kind of large flat-bottomed vessel, nearly as wide as it is long, being fifty-five feet long by forty-five wide. It is divided lengthwise into three portions, the centre of which contains the machinery by which it is worked, while the sides form two platforms on which the passengers and carriages are placed. At each end of each of these side platforms is attached a strong and commodious drawbridge, hung on hinges, which can be let down so that its extreme end may rest on the beach or shore, and thus form a convenient passage for passengers, horses, and carriages to or from the beach and the vessel. The side platforms are eleven feet in width, and the middle divi-

sion of the bridge contains one or two moderate-sized cabins.

The next point is, to explain how this singular-shaped structure is propelled. This is done by the aid of two strong chains, stretched side by side across the river, from one bank to the other. The length and weight of the chains are such that each chain, when the bridge is at one shore, lies along the bottom of the stream; and when the bridge is in the middle of its course the chain makes two curves, one between it and either shore. The chains are not permanently fixed at the ends, but are balanced by very heavy weights, so as to enable them to yield in a slight degree to any strain to which they might be exposed. The bridge or vessel is so connected with these two chains, that it cannot drift beyond the limits to which they extend; it cannot go farther northward than the northern chain shifts, nor farther southward than the southern chain; and as the chains are limited in their lateral deviation by the weights at their two ends, the bridge is rendered nearly independent of the current.

But the chains do more than guide the bridge on its passage; the links, by a very curious arrangement, are made to supply the place of paddles. In the middle of the vessel is a steam-engine, whose power is exerted in causing the rotation of two vertical wheels seven or eight feet in diameter. These wheels are parallel, about eleven feet apart, and lie in the direction of the length of the bridge. Round the periphery of each wheel is a series of cogs or knobs, exactly as far apart as the links of the great chains. The chains pass upwards from the water into one end of the bridge, over the cogs of the wheels, and down into the water again at the other end of the bridge; the cogs striking or catching into the links of the chain. Now when the wheels are made to rotate by the engine, as the cogs on the periphery cannot escape from the chain, one of two effects must result: either the chain must move on while the bridge stands still, or the bridge must move while the chain is stationary. The chain cannot move in the direction of its length, for it is fastened at each end; and therefore the bridge becomes propelled. The wheels rotate, and the cogs catch successively in all the links of the chain, thus causing the whole machine to be forcibly drawn onwards. By reversing the direction in which the wheels rotate, the vessel's direction of motion is changed also.

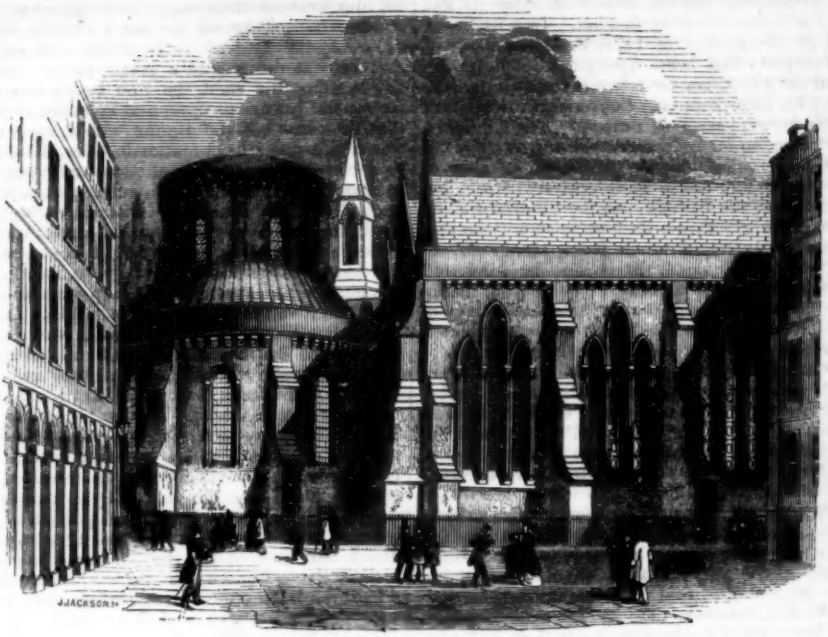
According to the power of the engine, so will the rapidity of the motion be regulated. Mr. Rendel states the velocity obtained in practice to be three hundred and twenty feet per minute, which gives about seven minutes and a half for the time of crossing the Hamoaze. Mail and stage coaches pass on to the bridge, just as if it were a common road, without disturbance to the passengers; and are then conveyed across. Mr. Rendel says that he has seen at one time on the bridge three four-horse carriages, one with two horses, seven saddle-horses, and sixty foot-passengers.

The chains of the bridge are sufficiently loose to dip deeply in the water, as a means of allowing the ships of war, many of which are kept on either side of the line of passage, to pass safely over them. The maintenance of this clear passage for the royal shipping was one of the difficulties with which the engineer had to contend; but it appears to have been successfully accomplished. There have been two of these bridges built, one for use while the other is under repair; and the two, with the whole of the arrangements pertaining to them, cost about 9000*l*. The bridge crosses the channel four times every hour, on an average of fifteen hours a day.

Mr. Rendel gives an anecdote which illustrates most remarkably the strength which it has been found practicable to give to this structure. "The shipwright who built the bridge, being desirous of exhibiting so great a novelty, invited a party of friends to witness the launch, which went off with great spirit and more *wine* than was sufficient for the christening. The wine in this, as in many other cases, caused its votaries to be altogether oblivious of such unimportant matters as time and tide, which, as they 'wait for no man,' so in this instance they ebbed faster than was perceived. It was the business of the builder to place the bridge in the basin of the new Victualling Yard, but a short distance from where the bridge was launched. With proper caution, the width of the entrance had been measured, and found sufficient for the bridge, but the measurement was taken at high-water. The batter (slope) of the pier heads of course narrowed the width of the entrance as the tide ebbed, so that when the bridge was brought to the basin the entrance was found just too narrow, and being caught on a rapidly falling tide, the bridge was *literally suspended between heaven and earth* for eight or ten hours till the return tide!" Not a bolt, or timber, or plank started under this severe ordeal.

Co-operative Labour amongst Small Proprietors in Switzerland.—The properties are too small, in general, to keep more than five or six cows all winter, and few can keep more than half that number. Yet these small proprietors contrive to send cheeses to market as large as our Cheshire dairy-farmers, with their dairy-stocks of forty or fifty cows, and farms rented at 200*l*. to 300*l*. a year. Gruyère and Parmesan cheeses are quite as large as Cheshire cheeses; and, as the price shows, are incomparably better in quality. They are made by small farmers, each of whom has not, on an average, the milk of half-a-dozen cows to make cheeses of. Each parish in Switzerland hires a man, generally from the district of Gruyere, to take care of the herd and make the cheese; and, if the man comes from Gruyere, all that he makes is called Gruyere cheese, although made far enough from Gruyere. One cheeseman, one pressman or assistant, and one cowherd, are considered necessary for every forty cows. The owners of the cows get credit, each of them, in a book daily, for the quantity of milk given by each cow. The cheeseman and his assistants milk the cows, put the milk all together, and make cheese of it; and at the end of the season each owner receives the weight of cheese proportionable to the quantity of milk his cows have delivered. By this co-operative plan, instead of the small-sized, unmarketable cheeses only, which each could produce out of his three or four cows' milk, he has the same weight in large marketable cheese, superior in quality, because made by people who attend to no other business. The cheeseman and his assistants are paid so much per head of the cows, in money or in cheese; or sometimes they hire the cows, and pay the owners in money or cheese.—*Mr. Laing's Notes of a Traveller.*

The Partial and the Comprehensive.—A Hindustanee Parable.—In a certain country there existed a village of blind men, who had heard of an amazing animal called the elephant, of the shape of which, however, they could procure no idea. One day an elephant passed through the place: the villagers crowded to the spot where the animal was standing, and one of them seized his trunk, another his ear, another his tail, another one of his legs. After thus endeavouring to gratify their curiosity, they returned into the village, and, sitting down together, began to communicate their ideas on the shape of the elephant to the villagers: the man who had seized his trunk said he thought this animal must be like the body of the plantain-tree; he who had touched his ear was of opinion that was like the winnowing-fan; the man who had laid hold of his tail said he thought he must resemble a snake; and he who had caught his leg declared he must be like a pillar. An old blind man of some judgment was present, who, though greatly perplexed in attempting to reconcile these jarring notions, at length said—"You have all been to examine the animal, and what you report, therefore, cannot be false: I suppose, then, that the part resembling the plantain-tree must be his trunk; what you thought similar to a fan must be his ear; the part like a snake must be the tail; and that like a pillar must be his leg." In this way the old man, uniting all their conjectures, made out something of the form of the elephant.—*Rev. W. Ward's Literature, History, &c. of the Hindoos.*



[The exterior of the Temple Church, from the South.]

THE TEMPLE CHURCH.

If one had never heard of the existence of such a Society as the Templars—a band of men who sought to be as conspicuous for their piety as for their military skill and courage, and who made it the business of their lives to reconcile the two pursuits—it would be still difficult to look on the exterior of the structure, which has been recently restored, without some such idea occurring to the mind. In the massive Round, with its buttresses and narrow windows, we are inevitably reminded of the strong circular keep or stronghold of the castles of the middle ages; whilst the junction of the oblong portion, built in the purest and most beautiful of the early English Ecclesiastical styles, at the same time tells plainly enough that no mere warriors erected the whole. And the interest likely to be aroused by such associations is only the more deepened when we inquire into the history of the Order: when we read of Hugh de Payens with only eight companions devoting themselves, as "poor fellow-soldiers of Jesus Christ," to the defence of the pilgrims on the high road to Jerusalem, recently forced from the Saracens by the early Crusaders, and learn that from this humble origin sprung the mighty fellowship, which extended its ramifications through every country of Christian Europe, which comprised a large portion of the noblest in blood, and most influential in wealth and power, of European chivalry; when we read also of the poverty—Hugh de Payens and another knight riding on one horse for instance—the humility and self-sacrifices to which they at first voluntarily submitted themselves, of their heroism in active warfare as well as in passive endurance, of their decline and fall as they grew prosperous and corrupt, and then of the sudden restoration of the old spirit in the purifying flames of the horrible death to which many of the most illustrious members were subjected at the period of the extinction of the Order, by the rapacious monarchs of Europe thirsting for their enormous wealth; when we read of these things, we might naturally suppose that it would be difficult to find any other circumstances that could materially enhance in our eyes the chief of the structures built by these men in our country. And had the Temple Church, as we have always hitherto seen it, been in the state the Templars had left it, no doubt the feeling would have been a correct one; but we now know that, with the exception of the bare outline of the walls, pillars, and windows, no building could be less like the church of the Knights Templars than the Temple Church; and the great charm and value of the recent works in this now most beautiful of English buildings, is that they are all strictly works of restoration. In looking at the decorations, so novel to our eyes, and in such a place so opposed to our ordinary ideas of fitness, as well as at the great expenditure incurred, this fact must be constantly borne in mind. That it is a fact we shall have various opportunities of noticing in the progress of our paper.

To the lovers of Gothic architecture, a designation that promises shortly to be synonymous in effect with persons of taste and intelligence generally, (already the notion of the irregular genius of the style has shared the fate of the somewhat similar notion concerning our great dramatic poet)—to such persons the Temple offers an additional feature of interest and instruction, being looked upon by architects as the most interesting example we possess of the transition from the plain massive Norman to the light and elegant early English. Thus we have before us the Round with its semicircular bended windows, Norman, but Norman in the last stage of the change to something else—already grown slender and elongated; and we have the oblong with its pointed windows, the very perfection of what is called the lancet style. But to return to matters of more general interest: the period of the erection of the edifice is from some little time prior to 1185, when the Round was dedicated, in honour of the Virgin Mary, by Heraclius, patriarch of Jerusalem, up to 1240, when the oblong was consecrated on Ascension-day. The Templars had before this a house on the site of the present Southampton Buildings, Holborn. Hera-

clius was in England on business of a very critical nature at the time of the dedication. In a battle on the banks of the Jordan, in 1179, the great body of Knights Templars had been nearly cut to pieces by Saladin, and the grand-master taken prisoner, to perish in prison by his own firmness or obstinacy, in resisting all overtures for exchange or ransom. The Christian armies, however, so far redeemed themselves from the temporary disgrace of this defeat, as to be able to obtain a truce for four years, whilst they sent Heraclius and the masters of the Temple, and the kindred society of the Hospitallers, through Europe to seek fresh aid. They in particular hoped much from Henry II. of England; so much, indeed, that when the king and his chief nobility offered to raise fifty thousand marks for the purpose of paying the expenses of a levy of troops, and to agree that all persons who pleased might engage in the cause, the patriarch seems to have been at once deeply disappointed and indignant. "We seek a man, and not money," was his reply; "well near every Christian region sendeth unto us money, but no land sendeth to us a Prince:" and departing in this state of dissatisfaction, Henry, who had reason to dread the power of the Church, remembering the affair of Beckett, followed him to the seaside, in order to appease his anger. "But," continues Fabyan, "the more the king thought to satisfy him with his fair speech, the more the patriarch was discontented, insomuch that, at the last, he said unto him, 'Hitherto thou hast reigned gloriously, but hereafter thou shalt be forsaken of Him whom thou at this time forsakest. Think on Him, what he hath given to thee, and what thou hast yielded to Him again; how first thou wert false unto the king of France, and after slew that holy man Thomas of Canterbury, and, lastly, thou forsakest the protection of Christian faith.' The king was moved with these words, and said unto the patriarch, 'Though all the men of my land were one body, and spake with one mouth, they durst not speak to me such words.' 'No wonder,' said the patriarch, 'for they love thine, and not thee: that is to mean, they love thy goods temporal, and fear thee for loss of promotion, but they love not thy soul.' And when he had so said he offered his hand to the king, saying, 'Do by me right as thou didst by that blessed man Thomas of Canterbury, for I had liever to be slain of thee than of the Saracens, for thou art worse than any Saracen.'" But Henry, however inly exasperated, was determined not to edify his subjects by another kingly scourging, so answered patiently, "I may not wend out of my land, for my own sons will arise against me when I am absent." Somewhat irreverently the patriarch closed the conference by remarking, "No wonder, for of the devil they come, and to the devil they shall go;" and so hurried away. Such were the circumstances connected with the dedication of the Temple in 1185.

In our walk round the exterior we are reminded of an interesting chapel formerly attached to its south side; the chapel of St. Anne, where the solemn ceremony of introducing new members into the Order took place. The rules of the Templars, which were very strict, were from the hand of St. Bernard, who at an early period of their career treated them with marked consideration. The new member having satisfactorily answered in private to the questions put to him, affirming that he was free from all obligations, such as betrothal, marriage vows, or consecration in connection with any other order, debt, disease, or weakly constitution, was ushered into the chapel, where he found present the entire body of knights. With folded hands and bended knees, he then said to the master: "Sir, I am come, before God and before you and the brethren, and pray and beseech you, for the sake of God and our dear Lady, to admit me into your Society, and the good deeds of the Order, as one who will be all his life long the servant and slave of the Order." In answer he was warned, that he was desirous of a great matter; that he saw nothing but the shell, the fine horses and rich caparisons, the luxurious fare, and splendid clothing; but that he knew not the rigour which lay within. He was told it was a hard matter for him, his own master, to become another's servant; to watch when he wished to sleep, and find his most ordinary actions similarly controlled. The candidate, however, answering firmly to all the questions that followed, and binding himself to be obedient to the master of the house, as well as to the master of the order generally, to observe the usual customs, to live chastely, and help with all the powers God had given him to conquer the Holy Land, and to befriend all oppressed Christians, was received into the coveted brotherhood, and whilst he was assured of bread and water, clothing, and "labour and toil enow," the Templar's habit was put on his limbs, and he too was a Knight Templar. The building in which these interesting scenes occurred appears to have consisted of two stories, each with a separate entrance from the church, each with a groined and vaulted roof, and each divided near the centre by a massive and no doubt very elegant archway. A portion of the building fell in 1825, and during the repairs, commenced about that time, of the Round, the whole was swept away. Such, we are glad to say, is not the spirit in which the late extensive reparations have been carried on. With a few words on this subject, by way of preliminary to the splendid scene that awaits us in the interior, we conclude the present paper. From the time of the Puritans down to the very act we have last alluded to, the removal of the chapel of St. Anne, the Temple church seems to have been undergoing one steady process of degradation or mutilation in all that respects its original beauty or completeness; and it would be difficult to say which have done the most injury, the early church reformers who damaged it on principle, or the kind benefactors of the seventeenth and eighteenth centuries, who repaired and beautified it, making a very labour of love of the display of their bad taste. Thus in 1682 a screen of "light wainscot" was stretched across the space between the two parts of the structure, cutting them asunder, and destroying at once all sense of harmony, or size, or fine perspective. This screen, by way of refresher to eyes wearied with the eternal Gothic stamped on the building around, was decorated with Corinthian pilasters and other suitable appendages. And that there might be no stealing a glimpse over the screen through the great central archway, a new organ was placed in that spot, with its classic front reaching nearly to the groined ceiling of the nave. There only remained to close up or to hide the form of the beautiful lesser arches on each side, which was carefully done, and to put in glass doors and windows in the lower portions of all the arches; and that too accomplished, no doubt the worthy benchers smirked, and smiled, and congratulated themselves, as they stepped backwards and forwards, painter-fashion, some such exclamation no doubt escaping at intervals, as "Come, I think that's very nice and snug." But there was yet much to be done to bring everything into perfect order. The marble pillars looked bluish and cold, and the roof looked hollow and high, and the tessellated pavement felt uncomfortable, and the walls were sadly naked. So to work once more went the beautifiers: the pavement was raised up by a good layer of earth, some more "light wainscot" was obtained, and placed all round the walls, the pillars were cased a good way up in the same material, and the rest did not much matter, as they were there stuck over pretty thickly with

tablets, or concealed by large gilded monuments: the church was also well paved; and, as a finish, the whole, pillars, capitals, cornices, roof, groins, and wall, were plastered and whitewashed. Add to these features of the Temple Church as it was, the cumbrous pulpit with carved cherubims, and vases, and a still more cumbrous sounding-board—add also the altar-pieces, an immense work in the same Corinthian style, actually concealing no inconsiderable portion of the great eastern window, as the monuments along the sides entrenched upon the windows of the aisles—and we must acknowledge that the said beautifiers did not work by halves—that, in short, they made everything so very complete in one way, that it is only surprising their successors should have ventured to undo the whole, in order to try their hands at another. And though they did venture, and with a result that forms probably the commencement of a new era in the restoration of our old buildings, as well as in the decoration of all, there were not wanting persons to warn them of the reckless course they proposed to pursue. "As a proof," says Mr. Burge,* "how little the public were acquainted with the character of the Temple Church, and with those parts of its style and construction which constituted its beauty, it may be mentioned, that when the restoration was commenced in 1840, the removal of these beautifications and adornments for the purpose of effecting the restoration was regarded and publicly reprobated as an act of vandalism, evincing an utter disregard for the ancient and original beauty of the church, and a fond devotion to the frivolous and degraded styles of modern architecture." It were not without interest to follow the successive steps of the restoration to see how the recovery of one beauty led to that of another; the removal of the screen to the removal of the organ; that of the great pews to that of the pulpit; or to see how the removal of the whitewash above and the rubbish below, and consequent discovery of the remains of the original decoration, led to the revival of such decorations in the sumptuous roof, and windows, and pavement, that now meet the eye; but our space will only allow us to notice the result of the whole as exemplified in the magnificent interior, towards which we now advance.

[To be continued.]

ON PRETERNATURAL RAINS.

Though the world talks of the skies "raining cats and dogs," yet this is evidently regarded merely as a pleasantry, not likely to be disturbed by the fulfilment of the phenomenon. But if we were told that the skies had "rained fishes," and were to regard that as equally a joke, it might be found that incredulity proceeded in this case a little too far. The recorded instances bearing on this point are too numerous, and too well authenticated, to be disbelieved or slighted.

The phrase "raining fishes" is merely indicative of the popular notion entertained respecting the phenomenon in India, where it occurs very frequently; the facts themselves may be recorded without the necessity for assent to so startling an idea as the precipitation of fishes from the clouds. All that is meant to be conveyed by the expression is, that fishes are found to fall on dry land, under peculiar states of the weather.

Newspapers and periodicals published in India frequently contain notices of these falls of fish; and one gentleman, writing on the subject, says:—"I was as incredulous as my neighbours, until I once found a small fish, which had apparently been alive when it fell in the brass funnel of my pluviometer at Benares, which stood on an insulated stone pillar, raised five feet above the ground in my garden." Another gentleman, writing in September, 1839, and in relation to a spot about twenty miles south of Calcutta, states:—"About 2 o'clock P.M. of the 20th inst. we had a very smart shower of rain, and with it descended a quantity of *live fish*, about three inches in length, and all of one kind only. They fell in a straight line on the road from my house to the tank, which is about forty or fifty yards distant. Those which fell on the hard ground were as a matter of course killed from the fall; but those which fell where there was grass sustained no injury; and I picked up a large quantity of them 'alive and kicking,' and let them go into my tank.... The most strange thing that ever struck me, in connection with this event, was, that the fish did not fall helter-skelter, everywhere, or 'here and there;' but they fell in a straight line, not more than a cubit in breadth." The explanation which this gentleman deems most probable, is one to which we shall allude farther on.

Another example is stated to have taken place near Allahabad. About noon, on a particular day in the month of May, the wind being from the west, and a few distant clouds visible, a blast of high wind came on, accompanied with so much dust as to change the tint of the atmosphere to a reddish hue. The blast appeared to extend in breadth four hundred yards, and was so violent that many large trees were blown down. When the storm had passed over, the ground, south of the village where the observation was made, was found to be covered with fish, not less than three or four thousand in number. The fish were all about a span in length, and of a species well known in India. When found they were all dead and dry.

A lady residing at Moradabad, in a letter to a friend in England, in 1829, gives an account of a number of fish that had fallen in a shower at that place; many of these were observed springing about upon the grass in front of the house, immediately after the storm. The letter (which was read before the Linnæan Society) was accompanied by a drawing of one of the fish, taken from life at the moment: it was a small species of *cyprinus*, two inches and a quarter long, green above, silvery white below, with broad, lateral, bright red lines.

In our own land there are not wanting instances bearing on this point; and it is probable that these accounts have been extensively disbelieved, as much on account of their rarity as of their apparent marvellousness. The following narration, while it indicates what was in all probability a fact, includes an hypothesis which does not necessarily belong to it, and which may have interfered with the reception of the narration itself: it is from Hasted's 'History of Kent.' "About Easter, 1666, in the parish of Stanstead, which is a considerable distance from the sea or any branch of it, and a place where there are no fish-ponds, and rather a scarcity of water, a pasture-field was scattered all over with small fish, in quantity about a bushel, supposed to have been rained down from a cloud, there having been at the time a great tempest of thunder, rain, and wind. The fish were about the size of a man's little finger. Some were like small whitings, others like sprats; and some smaller, like smelts. Several of these fish were sold publicly at Maidstone and Dartford." The hypothesis here is evidently that the fish had been "rained down from a cloud;" one which certainly taxes the powers of belief.

In the year 1830 the following appeared in a local Scotch newspaper:—"On the 9th of March, 1830, the inhabitants of the island of Ula, in Argyleshire, after a

* 'The Temple Church.'

day of very hard rain, were surprised to find numbers of small herrings strewed over the fields, perfectly fresh, and some of them exhibiting signs of life."

Now all these accounts become explicable if we presuppose the occurrence of a violent storm of wind; and it is observable that nearly all the accounts agree in stating that high and strong wind accompanied or preceded the phenomenon noticed. A very violent wind, driving obliquely over the surface of a river, may be able to carry along with it the smaller and lighter fish swimming near the surface (and they are all *small* which are said to fall "with rain"), leaving the heavier ones behind, and depositing the lighter ones on dry land, as soon as the force of the blast becomes proportionably less than the weight of the fish. A writer on this subject in Rees's 'Cyclopædia' says:—"The raining of fishes has been a prodigy much talked of in France, where the streets of a town at some distance from Paris, after a terrible hurricane in the night, which tore up trees, blew down houses, &c., were found in a manner covered with fishes of various sizes. Nobody here made any doubt of these having fallen from the clouds; nor did the absurdity of fish of five or six inches long being generated in the air at all startle the people, or shake their belief in the miracle, till they found upon inquiry, that a very well-stocked fish-pond, which stood on an eminence in the neighbourhood, had been blown dry by the hurricane, and only the great fish left at the bottom of it, all the smaller fry having been tossed into the streets."

It is probable that this last example would be found illustrative of a large proportion of the cases recorded; since it is not necessary to the truth of the accounts that the fish should have fallen near a pond or stream. A high wind may at the same time be so fierce and so long continued as to carry the fish or any other bodies wafted with it to a great distance. A curious instance has been recorded by Mr. Fairholme, who wrote on this subject in the 'Asiatic Journal;' which, though not relating immediately to fish, will show how articles may be suspended for a time in the air by the action of the wind:—"I remember on one occasion, in the midst of the most perfect tranquillity, and in a very sheltered garden in the south of Scotland, seeing a quantity of clothes, which had been spread to dry on a smooth bowling-green, suddenly thrown into the utmost confusion, and some of the articles carried up into the air so high as to be nearly lost to view. They were watched by myself and others for upwards of half an hour, and were found next day at a distance of three miles."

This example will serve to illustrate not so much the effect of a direct and rushing wind, as another wind to which these results have also been referred, viz. a whirlwind. These extraordinary phenomena, occasioned probably by sudden irregularities in the temperature and electrical condition of the air, manifest themselves in a violent spiral aërial current, whirling upwards with great rapidity, and carrying up within their vortex any small or light bodies which may be within their circuit. If this should occur at sea, an immense volume of water is carried up at the same time, forming what is called a water-spout; and it is unquestionable that if water can be thus drawn up, small fishes may be similarly affected. If the spiral current of air, whether including water within it or not, remain stationary above the spot where it was formed, then whatever was drawn up with it will after a time be precipitated nearly to the same point as that from whence it was taken; but if the whirlwind or water-spout itself moves onward, then the contained matters will be carried with it, until the force of the blast dies away, and the substances are precipitated to the ground simply by their own gravity. Whirlwinds of this kind are very common in India; and it seems consistent with all the details hitherto recorded, that when fishes, either alive or dead, are seen to fall to the ground, they have been wafted from some sea, lake, river, or pond, by one of these two agencies—either a powerful wind, which by sheer force drove the fish out of their watery element; or by a whirlwind, which drew the water and the fish upward in its vortex by a species of suction, and then wafted them to a considerable distance before precipitation.

The lovers of the marvellous are wont to talk of the raining of frogs, the raining of stones, the raining of blood, and many other astounding matters of a similar kind; but, as may be well supposed, the details admit of interpretation very different from the popular one. Swammerdam relates the following circumstance as having occurred at the Hague in 1670:—"One morning the whole town was in an uproar on finding their lakes and ditches full of a red liquid, which was with the common consent of the vulgar believed to be blood. The lakes were known to be full of water the night before; and it was therefore deemed a logical inference that there must have been a shower of blood during the night. A physician, however, went down to one of the ditches, and took home from thence a quantity of this blood-coloured liquid: he examined it by the microscope, and found that the water was water still, and had not at all changed its colour; but that it swarmed with a prodigious number of small red animals, all alive, and very nimble in their motions, whose colour and number gave a red tinge to the whole body of the water they lived in, when viewed from a distance. The certainty, however, that this was the case did not persuade the Hollanders to renounce the marvel: they came to the conclusion that the sudden appearance of such a number of animals was as great a prodigy as the raining of blood would have been; and for generations afterwards it was regarded as a portent and foretelling of the scene of war and devastation brought about in Holland by Louis XIV."

The appearance of the insects in such numbers is accounted for thus (for as no one appears to have asserted that he saw blood-coloured liquid fall from the clouds, we are spared the necessity of any further explanation): these little animals are the pulices arborescentes of Swammerdam, or the water-fleas with branched horns. These creatures are of a reddish-yellow or flame colour. They live about the sides of ditches, under weeds, and among the mud, and are therefore not generally very visible. At about the end of May and the beginning of June, however, these little animals leave their recesses, to float loose about the water, and by that means become visible by the colour they impart to the water. It has been remarked that it is always at this season that the ignorant have been alarmed by the notion of blood-rain.

High winds, little red insects, and meteorolites will probably exhaust the list, and explain the causes, of what are termed "preternatural rains."

Vineyard Cultivation.—The vineyard is but a garden. The hand-labour is incessant in all the different operations; and yet it is not, like the hand-labour in a garden, applied to but a few fruit-trees, or plants, or beds, with which you form a kind of acquaintance that ripens into friendship in the course of years. The vines are too many, and each too insignificant by itself, for that kind of pleasure; and the land under vines being always under vines, you do not get intimate either with the acres or beds, as in corn and grass husbandry, nor with the individual plants, as in gardening. Then the eye has nothing agreeable to dwell upon in the dotty effect of a field of vines, and the ear misses the rural music of a farm—the crowing of the cock—the lowing of the cattle—the sound of the flail. It is, in spite of poetry, a dull manufacture.—*Mr. Laing's Notes.*